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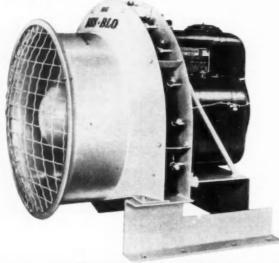
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JULY VOL. 72 1952 No. 7

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#### AMERICAN FRUIT GROWER

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E. G. K. MEISTER

Editorial Staff
R. T. MEISTER H. B. TUKEY
E. K. GOULD ELDON S. BANTA
M. A. FRAZIER

Washington Correspondent LARSTON D. FARRAR
Advertising Manager
EDWARD L. MEISTER

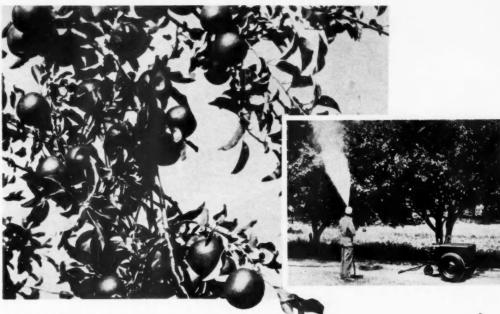
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Wabash, Phone—Dearborn 2-0279
SAN FRANCISCO, McDonald-Thompson, 825 Market
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Color-Set is recognized as the first real improvement in preharvest drop control since the introduction of 1-naphthaleneacetic acid in the 1930's. Color-Set has been used successfully over the past three years on such varieties as Early McIntosh, Milton, Wealthy, Delicious, Fameuse, Baldwin, Golden Delicious,

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Just compare Color-Set with any material you have been using for drop control! It is important to follow leaflet and label directions.

See your agricultural chemical supplier or write to Dow for literature.

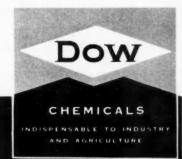
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## **Closer Control of Costs and Coverage**



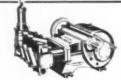
Somewhere in the full line of Myers power sprayers you'll find the sprayer that will give you complete coverage at lowest cost. Myers sprayers are jobfitted for every conceivable size or type fruit growing operation.

High speed . . . concentrate . . . dilute take your choice. Tank sizes range from 50 to 500 gallons; pressures from 30 to 800 lbs.; capacities from 4 to 50 gallons per minute.

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Myers Concentrate Sprayer. Cuts orchard spraying costs 40%. Handles both conventional spray materials or concentrates. Allows one man to do job formerly requiring six men.

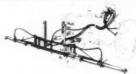


Myers "Bulldozer" Pump. Tough, re liable heart of Myers Sprayers, Precision continuously self oiling . double geared for minimum wear and friction: enclosed against dirt and dust.

Myers 42-foot one side spray boom. Raises and lowers, folds and unfolds through hydraulic controls. Adds hours



Myers skid type sprayer. Mounts on truck or wagon. Saves cast of carriage and wheels, 13 to 50 GPM capacity, 600 lbs. pressure.



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STOP THESE INSECT PESTS with EPN 300 and

save money doing it. You can often combine mite control with destruction of Oriental fruit moth, plum curculio, peach tree borer and lesser peach tree borer, pear psylla, fruit tree leaf-roller, and grape berry moth. EPN also controls Lecanium scale and peach cottony scale crawlers and olive scale crawlers, as well as codling moth, and pecan nut casebearer.

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- Highly effective at application, residual control is excellent.
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\*Do not use on McIntosh-type apples



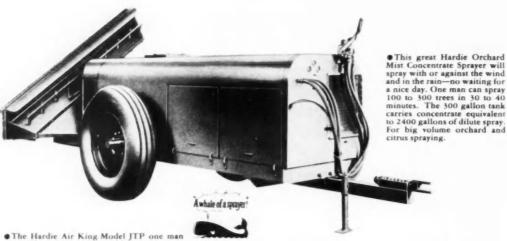
On all chemicals always follow directions for application. Where warning or caution statements on use of the product are given, read them carefully.





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operated combination air and boom sprayer is designed and built for average acreage and is easily within the budget of any grower. Equip ped with both high and low pressure booms, both controlled by a single lever within easy reach of the tractor operator. Delivers the spray on either or both sides as desired.

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Capacity, Performance and Price

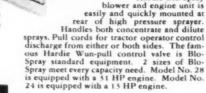
Hardie offers a perfected line of one-man air blast sprayers in five different models, plus the Hardie Blo-Spray, the outstanding blower and engine unit which inexpensively converts a high pressure sprayer to air blast spray application. All handle both dilute and concentrate sprays. High pressure hose outlet is provided for hand gun spraying. You get every type of pest control at its most modern best in the Hardie of your choice.

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sprayers for



Hardie orchard and row crop dusters embody many new, exclusive features

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In Fruit farming . . .

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The Power Pilot in these, and all Ford Truck engines, is still a Ford exclusive in the low-price field. It gives you the most power from the least gas.

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# ENGINEERING FRUIT FLOW TO CUT COSTS

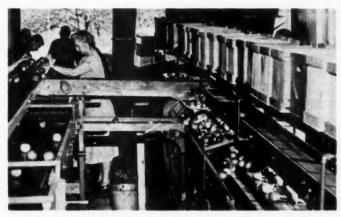
By D. O. HAYNES

UNISTORY buildings, wider aisles, and higher ceilings do not reflect radical changes in our thinking about plant design. Actually, these "innovations" follow long-established principles of good layout, now more readily applicable under conditions brought about by the introduction of improved materials handling techniques.

For many years the production line—the packing line, for example —was highlighted as the only part of an operation which "added value to the product." More recently the spotlight has been shifted to the "forgotten corners"—receiving, storing, and shipping. Studies made to improve these operations have pointed up the importance of good layout as a factor which vitally affects the overall efficiency of any industrial activity.

The methods of analysis and the basic principles we are about to con-

D. O. HAYNES is consulting industrial enginer to food processing and distributing firms. It palletized the first multistoried refrigerator ware house to be so mechanized, and his work has included apple storage warehouse layout, from orchard to shipping platform with intermediate processing.



A conveyor keeps fruit or containers moving easily and quickly; saves manpower.

sider, while applicable to a fruit or vegetable packing plant, are equally usable in planning a new cannery or in revamping a quick-freezing plant.

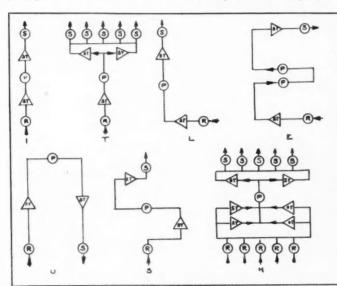
Plant layout deals with space-the

amount required and its relative arrangement—together with the best utilization of space. Plant arrangement, on the other hand, is concerned with flow—the movement of materials, machines, and men through the various operations which, in combination, make up a given enterprise.

Figuring space starts with capacity data. The desired number of finished units—crates, cartons, boxes, etc., of fruit—and the raw materials needed to meet this output indicate the machines to be used in both production and handling. Manufacturers' specifications as to capacities and a knowledge of the estimated quantities of raw materials to be received and the rates at which they are to be withdrawn, plus the in- and out-flow of finished products give us the basic calculating data for space needs.

Most manufacturers can control the time element in regard to incoming materials so that inventories may be kept to a minimum. Not so the packer. He must reckon with short harvesting periods when, in most instances, his raw materials accumulate more rapidly than they can be processed. Storage space must be provided for these peak receipts. Even though such housing facilities are used only temporarily, they should be so located that they can be fed to and drawn from efficiently.

(Continued on page 26)



Each fruit handling operation in a packing house should move steadily forward to the next operation. These typical diagrams show progress of a product from receiving (R), through raw material storage (ST), processing (P), finished product storage (ST), and, finally, shipping (S), even when the flow line twists and turns.



This man struggles with 50 pounds . . . .

## 

Thirty growers, topnotchers in handling fruit, tell how they do it.

#### By R. T. MEISTER

EVERY fruit grower, whether large or small, is confronted with a fruit handling problem. Fortunately, the modern science of material handling and movement can be adapted to meet the needs of the fruit grower. Many growers are finding that they can eliminate hand lifting, carrying, and stacking, which operations impede the flow of fruit from the orchard and raise labor costs.

To find what progress has been made American Fruit Grower asked 30 top-notch growers and packers about their experiences in cutting down costs in handling fruit. Experience is a hard master, but it yields results at which theory only can guess.

#### The Versatile Conveyor

Every one of the 30 growers employs conveyors in handling fruit. Adaptable to unnumerable uses, the conveyor is an indispensable friend of the grower. Hard to wear out, needing little service, conveyors are available in wheel, roller, or belt types. To these growers the conveyor is as essential to handling of fruit as the sprayer is to growing it.

To illustrate the many uses to which conveyors can be put, here are some typical comments:

"We use roller conveyors to carry fruit out of storage. Conveyors are always set so that a man can reach them from stack. A belt conveyor is used to move fruit from basement to packing room."

"We plan our belt conveyor so that it will carry culls direct from packing line to waiting truck bin."

"Have six solid roller conveyors —20-foot lengths—from outside of packing shed to cleaner hopper, using three tracks to each cleaning and grading line."

"I use mostly roller conveyors and have two elevating belt conveyors one brings apples out of basement and the other is used for putting the apple boxes where they can be easily stacked."

"We use gravity wheel conveyors, belt elevators, and boosters for raising and lowering from the second floor. We pile six high and also use boosters to pile balance up to 11 high."

"Have 500 feet of conveyors in all. Use four- and eight-foot sections of wheel conveyors and have them around in our storage to enable men



to stack apples from main belt conveyors without too much walking."

"Use wheel conveyors to carry crates over grader and packed apples to nailing bench."

"At unloading we stack five high and then raise conveyor to the five high and finish by stacking six on the five."

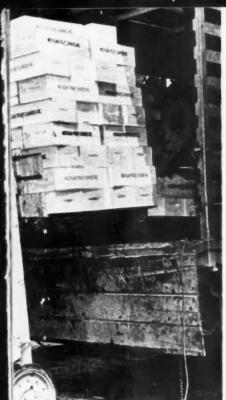
#### Power Lift Trucks

The day of completely mechanized fruit handling is not far off. Five of the growers already use pallets and lift trucks and seven more said they intended to purchase a power lift truck or change over to lift trucks and pallets at some future date.

Experience on this score seems to bear out the recent USDA study which was covered at length in the businessman's newspaper, The Wall Street Journal. The study pointed out that any grower raising 100 or more tons of cherries, 10,000 or more bushels of peaches, pears, or apples, or any combination of these fruits totaling 10,000 or more crates, can increase his net returns by using lift trucks. Not only did the lift trucks save labor but they cut down on the number of trailers and trucks needed.

Regarding power lift trucks, one grower wrote:

"Our pallet system saves us a great





Automatic dumpers are used for gentle handling of fruit at the packing belt.

deal of labor of the kind that is hard to get at harvesttime.

"In the storage and packing house we use a commercial power lift truck. One man unloads trucks and trailers, keeps the dumping tables supplied, and fills the storage with packed boxes, handling about 2,000 bushels in a normal day.

"We adapted a manure shovel on a Ford tractor so that it can be used as a fork truck in the orchard. One man on the tractor does all the loading and he and two tractor drivers handle 30,000 boxes in less than two weeks without working overtime."

Another grower commented, "Handle fruit wherever possible on pallets,

from orchard, around packing house, loading out of packing house onto highway trucks, stacking in cold storage, and handling empty crates and packing containers."

"We have found after one season of using our fork lift truck and pallets to unload trucks and feed the grader line that we have lower costs and a reduction in labor. We are considering the purchase of a fork lift attachment for our Ford tractor to load pallets in the orchard," was another comment.

Another said, "The fork lift truck is the best laborsaver we've seen. It unloads trucks and trailers, hauls packed apples to storage, and stacks."

#### Graders and Sizers

Many different makes and models of graders and sizers were used by the 30 growers who were not entirely satisfied with the efficiency of their grading machines. Most frequently mentioned was the amount of bruising

caused by the graders as well as the inaccuracy of the sizer.

Other objections included failure of grader to perform to rated capacity, packing bins not large enough, and parts hard to obtain. Also, sizers were criticized for failure to sort to a sufficient number of sizes. Consensus of opinion seemed to be that improvements in graders and sizers are lagging behind improvements in handling equipment.

Growers surveyed take special pains to avoid bruising in hauling fruit from the orchard and in dumping on the grading line. Orchard trailers with springs and shock absorbers and low-pressure rubber tires were mentioned as factors in eliminating bruising. Automatic dumping machines, aprons to hold the fruit, soft cushions, and a board on top of the box were all mentioned as aids to allow fruit to gently roll onto grader line.

The grower-owned refrigerated (Continued on page 24)

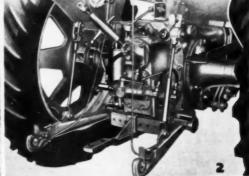


Tractors are being adapted to transport pallets of fruit to packing house or storage.

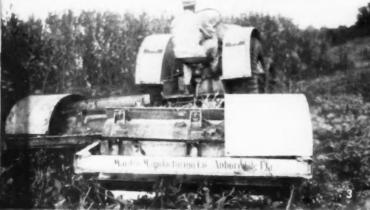


Conveyors ease handling, speed the flow of fruit in packing house or cold storage.



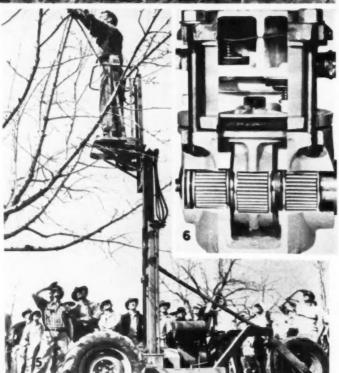




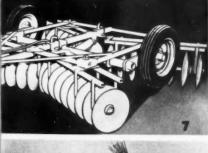


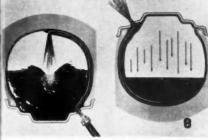






- Twin Seven mower with reversed tractor operation is made by Mountain Empire Mfg. Co., Murray, Utah.
- Eagle Hitch on tractors and implements of J. I. Case Co., Racine, Wis., permits quick, close coupling.
- 3 The Duplex cover crop cutter made by Marden Mfg. Co., Auburndale, Fla., has two four-foot sections.
- 4 Made by Mayrath, Inc., Dodge City, Kans., Mayrath portable workstand can be raised 14 feet above ground.
- 5 The Steel Squirrel lets one man do the work of two; is made by Blackwelder Mfg. Co., Rio Vista, Calif.
- 6 Diaphragm spray pump Model 77, Ace Pump Corp., Memphis 3, Tenn., has hollow or solid drive shaft.
- 7 Flexibility in frame and mounting is feature of Hydra-Flex disc harrow of The Cobey Corp., Galion, Ohio.
- B Goodyear Water-Matic Valve, available at dealers, facilitates filling and draining liquids from tires.
- 9 Easy to handle, Wright power saw is made by Wright Power Saw & Tool Corp., Stratford, Conn.





## **SAVERS**

- 10 Hydro-Oscillator of Kingsburg Cultivator Co., Kingsburg, Calif., con-trols weeds under vines and trees.
- Guarantees wet weather starting; this product of Elek-Trik Seal Lab-oratories, 161 W. Elm, Chicago 10. 11
- 12 Lemon clipper developed in Califor-nia increases picking efficiency. Photos courtesy Citrus Leaves.
- 13 Florida scientists have developed picnometer to determine soil moisture content for irrigation control.
- J. A. Batson Electronics Corp., Omaha, Nebr., GG-2 Galegage an-emometer indicates wind velocity.
- Dragon automatic fertilizer injector of Dragon Engineering Co., Oakland 2, Calif., fits any sprinkler system.
- For small-scale spraying or dust-ing, Master Mister is made by Wel-ier's Mfg. Co., Bay Village, Ohio.
- 17 Annis tractor front-end mower, made by Krengel's, Inc., Twin Falls, Idahe, will cut up to 36" in height.

Full details on new laborsaving equip-ment are available from manufacturers or from AMERICAN FRUIT GROWER.





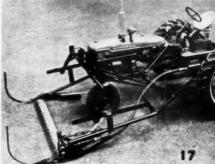


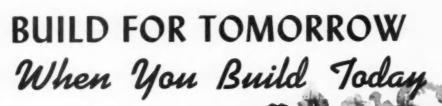












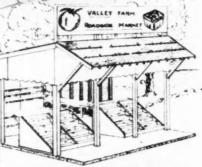
These orchard buildings are well designed, economical to construct, and will give many years of efficient service

THE various buildings illustrated here have been designed with the purpose in mind of possible expansion. The tenant house, for example, can be a single or a double unit. The refrigerated fruit storage is designed so that it can grow with the orchard, from 10,000-bushel capacity to 20,000. From tree to consumer is the motto of growers on well-traveled highways and it's the attractive stand that gets the cream of this profitable business. The model roadside market



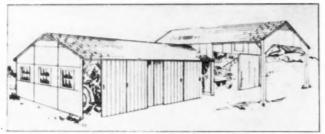


Combination cold storage and packing house can be enlarged from 10,000 to 20,000-bushel capacity. Where snow is a problem a gable roof is highly recommended.



The overhanging roof on this roadside market permits the customer to inspect products on two movable display racks.

This 30x70-foot pole-type packing shed has a six-foot loading and storage dock; provides five square feet of floor space per bushel of fruit packed per day.



Machinery storage section of this combination is designed in a series of 12x24-foot bays with no center pasts. Two-story orchard workshop is 24x24.

shown has adjustable shelves for display of few or many products. New or enlarged packing house space is economically provided in the poletype packing shed. The orchard workshop and machinery shed make an ideal combination, but one can be built and the other added at a later date.

The End

#### THESE PLANS ARE AVAILABLE

Working drawings showing construction details are included with the following plans:

the following plans:	
Tenant House	\$1.00
10,000-Bushel Apple Cold Storage	1.00
Roadside Market	.50
Pole-Type Packing House	1.00
Machinery Storage & Repair Shed	1.00
Send remittance in the form	of
check, money order, or cash to	

AMERICAN FRUIT GROWER Willoughby, Ohio

AMERICAN FRUIT GROWER

## "SEEDS AND SPARK PLUGS HAVE MUCH IN COMMON"

SAYS MR. DICK McKENNA OF FERRY-MORSE

Mr. Dick McKenna, Superintendent of the Ferry-Morse Seed Co.'s headquarters ranch at San Juan Bautista, California.

Threshing garden peas with special harvesting equipment, designed by Ferry-Morse, and built to their specifications.



Gilbert Bentley, scientist at Oakview trial grounds near Rochester, Michigan, records cucumber trials.



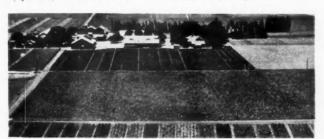
A self-propelled vine seed thresher, designed by and built for Ferry-Morse, threshes Zucchini Squash.



Here in a fire-, earthquake-, rodentproof vault are stored Ferry-Morse's irreplaceable foundation stocks.



John McCabe, Supt., and John Moran, Asst. Supt., record cabbage trials at Salinas (Cal.) trial grounds.



Air view of the Ferry-Morse Seed Co.'s 900 acre headquarters ranch at San Juan Bautista, California.

Founded in 1856, the Ferry-Morse Seed Co., has grown in fame until today its name is known throughout the world as a symbol of quality seeds.

At San Juan Bautista, California, Ferry-Morse operates 900 acres devoted exclusively and intensively to scientific growing of seed stocks. In addition, Ferry-Morse operates 430 acres of seed breeding stations and trial grounds in California, Florida, Idaho and Michigan, and uses over 40,000 acres of growing grounds in twenty states.

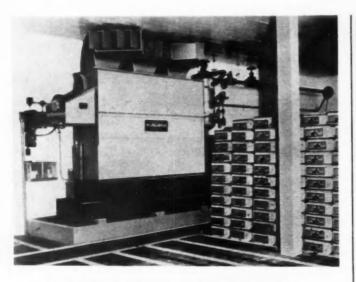
Quality control—testing, breeding, checking for trueness to type—and experimental work towards new strains and types are all part of the exacting routine.

Mr. Dick McKenna, Superintendent at San Juan Bautista, says, "As I see it, spark plugs are very much like seeds. Each starts and sustains a vital function. The better the seed, the better the results and the better the spark plug, the better the performance.

"We use a wide variety of power equipment in running our farm on strict schedule. These cars, trucks, tractors and special farming machines are equipped with Champion Spark Plugs—exclusively. We have found that, year in and year out, Champions give us the ultimate in spark plug performance, economy and dependability."



CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO



## TEMPERATURES NEVER RISE... with NIAGARA "NO-FROST"

 With the Niagara "No-Frost" Method, your refrigerating operation is never interrupted for defrosting since at no time is there ever any accumulation of ice or frost on the coils of the Niagara "No-Frost" Spray Cooler.

If you are pre-cooling, the full capacity is always there to handle the "live load" and you get quicker chilling of your product to the core with no rise in temperature at any time. If you are freezing, the process is continuous and faster, and you get more production. If you are holding fresh or frozen food, there is never any temperature rise to endanger the quality.

The Niagara "No-Frost" Method saves money in its operation. A user recently said: "We added a new freezing room to our plant without any additional cost for power". This was accomplished because the Niagara Aeropass Condenser held the head pressure down to the minimum for the entire plant, while the Niagara "No-Frost" Spray Cooler operated at higher suction pressure.

Write for Niagara "No-Frost" Bulletin 105 and details of operation for the type of refrigeration in which you are interested.

#### NIAGARA BLOWER COMPANY

Over 35 Years of Service in Industrial Air Engineering
Dept. A.F., 405 Lexington Ave. New York 17, N.Y.

Field Engineers in Principal Cities of U.S. and Canada

NIAGARA

HUMIDIFYING • AIR ENGINEERING EQUIPMENT



Reuben G. Benz (right), Yakima, Wash., receiving congratulations at NAI banquet as he is presented map of U. S. with inscribed plaque by H. W. Miller, Paw Paw, W. Va., for his autstanding work in behalf of apple industry. Benz also was re-elected chairman of NAI board.

#### SHORT APPLE CROP PREDICTED BY NAI

"WILL the long awaited short apple crop materialize this fall?" was the main question on the lips of apple grower delegates attending the annual meeting of the National Apple Institute at Yakima, Wash., June 12-14. They estimated the crop at 103,465,000 bushels, more than nine million bushels below last year, 20 million below 1950, and 30 million below 1949. Then the question was, will the crop get larger or smaller? Opinion was divided, but an optimistic feeling persisted.

If the crop remains short, will prices this fall start high or low? Growers were cautioned by Earl Carlsen of Washington State that the starting price can be the making or the breaking of the market and that movement is more important than price.

Nearly every state reported a smaller crop this year than last. Fire blight reduced the crop drastically in many Midwest sections while Washington's normal 30-million-bushel crop was estimated at only 23 million because of freeze damage. Wet weather brought widespread outbreaks of apple scab in eastern belts which cut the set of fruit. Both Virginia and West Virginia estimated larger crops than last year with most of the increase in processing

#### Processed Apples in Good Demand

Good news was heard, also, in the review of processed apple carryover and expected demand. Applesauce should be virtually sold out by the opening of the new season and apple slices will not have a heavy carryover. The feeling seemed to be that the amount of apples going to canners will depend primarily on how many processors will want to buy in competition with the fresh market. Even the movement of apple juice,

which always lags, was reported as

Despite the optimistic outlook, growers did some keen soul-searching to discover and overcome the ills of their industry. It was pointed out by New York's Steve Putnam that since 1935 the purchase of apples has declined.

Although some delegates felt that supply should be lowered to meet the demand by broad tree removal programs, the feeling of the majority was that a selective reduction in some varieties and in some areas, depending upon local conditions, is the answer.

Growers felt also that more attention should be paid to merchandising. The work of Max Brunk of Cornell University in increasing apple sales through effective displays of prepacked bagged fruit in conjunction with bulk was pointed out.

#### Discourage Federal Aid

Regarding government purchase programs and subsidies, opinion was divided. J. E. Klahre of Oregon stressed that export payments are not a subsidy but an "equalization" payment by a government that refuses to return to the apple industry the export markets enjoyed before the war.

On the school lunch program, Phil Johnson of Indiana reported that the Indiana Horticultural Society had unanimously voted against any government subsidies and that the school lunch program as presently operated did not do enough good for the freedom of action growers gave up.

The meeting unanimously resolved to urge that no price ceilings be placed by the government on any tree fruits or commodities made from any tree fruits, and directed that the Republican and Democratic national committees be urged to direct Congress to establish exports of horticultural products on a normal prewar basis.

An expression of gratitude was made to Congressman Walter Horan of Washington State for his work on the Delaney committee in bringing out the true facts about insecticides and fungicides.

Finally, resolutions were passed to set up an apple marketing board and machinery to determine accurately the rate of movement of apples in retail stores.

E. B. Moore, Berryville, Va., was re-elected president of NAL Lloyd L. Sterling, Wenatchee, Wash., was elected vice president and C. G. Garman, Burt, N.Y., secretary, while C. E. Dutton, Milford Center, Ohio, was re-elected treasurer, and Truman Nold continues as executive secretary.

The End



NORMAL SPRAY METHOD	
MATERIAL USED 83.1¢	MATERIAL USED only 43.2¢
<u> የ</u> ተለተለተለተ	<b>ስስስ</b> (
LABOR COST 16.9¢	LABOR COST only 7.0¢
\$1.00	70741 and 50 2¢

SAVINGS WITH FARQUHAR MIST SPRAYER: 49.8¢ OUT OF EACH DOLLAR

COMPLETE coverage via Iron Age mist spraying assures you more perfect fruit at a saving of practically 50% over ordinary spraying methods. You save time, labor, materials, and — money! (See for yourself in the chart.) Check these features: Double-axial blowers spray from either side. Special discharge orifices control volume and velocity of mist to assure complete coverage. High pressure break-up guarantees right droplet size. Light weight permits early spraying on soft ground. Visit your Iron Age Dealer today—see how the Orchard Mist Sprayer can guarantee you better fruit at less money.

WRITE TODAY for complete information to: A. B. FARQUHAR CO., Farm Equipment Div., 2623 Duke St., York, Pa. Branches in Columbus, Ga., Pale Atte, Colif., and Dollas, Toxas.



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#### FRUIT-AND-FARMING

## **POWERED** TO PAY





Full visibility for mowing in orchards or No. 5 front-mounted mower driven by heavy-duty V-belts. Available

Field crops and fruit - advanced power and tools . . . together they can expand your income sizably. Allis-Chalmers equips you to meet the challenge of such a diversified program with unique advantages. Automatic Traction Booster power-spaced tractor wheels close-coupled, hydraulic-lift implements - clean-cut design for simplified operation and maintenance. These are yours to choose for any number of profitable fruit-and-farming acres.

Thriftiest of the orchard-and-field workers is the Model B Tractor. Has its own com-plete line of low-cost mounted implements



Model G Tractor narrows to 36 inch wheel spacing for close work in berries. Great saver of hand labor in vegetables, flowers, nurs-



#### Col. Bumstead, Noted Horticulturist, Dies

THE fruit industry lost a noted pioneer horticulturist and fruit grower in the passing of Col. Dale Bumstead of Phoenix, Ariz., on May 9, at the age of 81. Col. Burnstead was responsible for pushing the Cardinal grape into prominence after its development by the USDA and he also helped popularize pink-fleshed grapefruit.

After a successful career with du-Pont and having served in the U.S. Army during World War I. Col. Bumstead retired to Arizona in 1923. only to become active in developing practically desert land into a fruit growing oasis. In 1926 he added to his first purchase of a citrus and date garden a 1,120-acre tract which he named Tal-wi-wi. Some 115 acres are devoted to grapefruit, 35 acres to oranges, and 35 acres to rare date palms.

Considered his most unusual development is the 250 acres of table grapes. His first plantings were of Thompson Seedless in 1927. Quick to sense the commercial possibilities of an early colored grape, he planted the then new Cardinal, a red variety of good quality, in 1944 and 1945. In June, 1947, he placed Cardinal grapes on the market for the first time and they created a sensation on the New York fruit auction, selling on June 20 of that year at the record price of \$13.25 a box. He sold nursery stock of the variety to many California and Arizona growers. Production from Tal-wi-wi vineyards will approximate 100 carloads annually.

Col. Bumstead's son, Dale, Jr., of Seattle, Wash., will carry on the business.

#### Sunkist Has New Sales Story

PROTOPECTIN is a new word that is being injected into the thinking of the public via an extensive advertising campaign for Sunkist oranges in popular as well as medical, nutritional, nursing, dental, and home economics magazines.

Protopectins are the native form of pectin in the natural fruit as distinguished from the substance when isolated as a chemical entity. They are found in the meaty solids of oranges and other fresh fruits. During processing protopectins are largely broken down into other compounds.

Sunkist's protopectin story, "ranking in importance with the introduction of vitamin C advertising in the 1920's," according to Russell Z. Eller, Sunkist advertising manager, is aimed at revitalizing not only the market for fresh oranges but for all fresh produce

## CALENDAR OF COMING MEETINGS AND EXHIBITS

July 23—Fruit Day, University of Connecticut, Storrs, Commercial display and demonstration of orchard machinery and spray equipment to be featured—Arthur C. Bobb, Extension Fruit Specialist, Box U-67, University of Connecticut, Storrs.

July 24—Joint summer tour Virginia, West Virginia, Pennsylvania, and Maryland horticultural societies, with West Virginia as host, visiting Senator Byrd's orchards at Charles Town as well as other orchards and Kearnerysville Experiment Statum--Carroll B. Miller, Secy, Martinaburg, W. Va.

Aug. 4-6—International Apple Association 58th annual convention, Hotel Jefferson, St. Louis, Mo.—Norbert Eschmeyer, Sec'y, 1302 18th St. N. W., Washington 6, D. C.

Aug. 12—New York State Horticultural Society summer tour to Vermont.—D. M. Dalrymple, Sec'y, Lockport.

Aug. 13-14—Ohio Pesticide Institute annual meeting, Ohio Experiment Station, Wooster.—
J. D. Wilson, Sec'y, Wooster.

Aug. 21—Orchard Day, Ohio Experiment Station, Wooster.—C. W. Ellenwood, Sec'y, Hort. Society, Wooster.

Aug. 25-27—Northern Nut Growers Association 43rd annual meeting, Rockport, Ind.—J. C. McDaniel, Sec'y, Urbana, Ill.

Oct. 23-Nov. 1—National Apple Week, Full information available from National Apple Week Association, 154 East Ave., Rochester 4, N. Y.

Dec. 4-5—Connecticut Pomological Society annual meeting, Hotel Bond, Hartford.—S. P. Hollister, Sec'y, Storrs.



This ingenious "platform" is the work of fruit grower Alfred N. Barney of Bridgeport, Conn. Barney constructed this laborsaving machine lost winter in his orchard workshop and used it for pruning. He plans to use it also for green fruit thinning and harvesting.

This piece of equipment and many other important gadgets as well as erchard equipment, supplies, and machinery will be on display and demonstration at the second annual machinery field day for fruit growers at the University of Connecticut, July 23, according to Arthur C. Bobb, extension fruit specialist, Box U-67, University of Connecticut, Storxs.

New laborsaving equipment will be on view in the glast new packing house and storage on Senator Marry F. Byrd's orchards in Charles Town, W. Va., the biggest one-field apple orchard in the world, during the July 24 meeting-and-tour of the four-state Appalachian belt horticultural sacieties. The joint meeting is planned to be an annual event with the four state societies acting as host in rotation. The West Virginia society, of which Carroll R. Miller, Martinsburg, W. Va., is secretary, will be host this year.



UNITED STATES RUBBER COMPANY

Rockefeller Center, New York

## CASE TRACTOR DISKING

# Berries Along the Old Oregon Trail

Right on the Oregon Trail in sight of Mount Hood, V. F. Carson grows red raspherries worth a thousand dollars an acre. His Case "VAO" Tractor is shown here with Case "LD-46" Offset Harrow. Mounted in a minute on Eagle Hitch, this harrow floats free when working, lifts clear at a touch of hydraulic control.





The only orchard tractor with Eagle Hitch is the Case Model "VAO." It hooks up in a minute to a wide choice of rear-mounted, hydraulically controlled implements—offset and tandem disk harrows, spring-tooth harrows, regular and 2-way plows, economy tool bar that takes sweeps, teeth and shovels to make most any kind of tiller or cultivator; also Utility Carrier that lowers to load boxes, bags, etc.

Besides Eagle Hitch, the Case "VAO" has swinging drawbar for trailing implements, with 2-way hydraulic control if desired. Like larger Case Tractors, the "VAO" has a heavy-duty, moderate-speed engine, built to run year after year with remarkably low upkeep. See your Case dealer; send for catalog. J. I. Case Co., Dept. G-13, Racine, Wis.



## M. J. FORTIER OF SHERWIN-WILLIAMS DIES SUDDENLY

J. FORTIER, vice president and general manager of Sherwin-Williams Company, Cleveland, Ohio, died suddenly on May 31. Starting as a salesman 24 years ago in a Sherwin-Williams subsidiary, The John Lucas Company of Philadelphia, Mr. Fortier rose rapidly and in 1945 was appointed to the position he held at his death.

Mr. Fortier was a popular executive with a wide acquaintance in the paint and chemical field. He had an engaging personality, made friends rapidly, and had an innate enthusiasm which always made his presence a delight to all who knew him.—E.G.K.M.

#### DON'T LIFT

(Continued from page 15)

storage is a factor rapidly growing in importance for smooth flow of fruit since it permits packing apples as they come out of storage and before they are sold. Packing out-of-storage or "fresh-pack" eliminates slack boxes and baskets and gives the consumer freshly graded fruit. Of the 30 growers queried, 21 packed out-of-storage. This practice also eliminates the harvest grading rush and permits grading throughout the winter with smaller, more skilled grading crews.

An objection is that the grower is kept close to home throughout the winter season. As a result of extending the packing season, several growers recommended insulating the packing shed, which is certainly a serious consideration once the frigid winter winds begin to blow. Nothing will cut down a worker's efficiency faster than cold fingers.

Continually seeking ways to speed efficiency, nine growers criticized their

packing or storage buildings. "If I were doing it over, I would build a larger packing room," one grower said.

Another would make the ceiling higher, and one mentioned eliminating overhead doors because they do not close tightly enough for winter use. "My packing room is not wide enough," was mentioned by two growers.

"If I could do it over," said another grower, "I would have receiving and shipping floors at truck platform level and use pallets and power lift trucks for receiving, piling, transferring, and loading. I would load pallets on truck in the orchard and eliminate three handlings of crates. If we ever hit a year when profits justify, we'll probably change over."

Other comments along the same line were: "The first thing we probably will have to do is to get some kind of lift truck in the orchard with pallets to save a great deal of loading and handling. The next thing is a larger grader operating in a long straight line, and then we will need another lift truck to move apples into the packing shed and storage." Also, "Would buy a grader with more sizes (eight to 10), use a power lift truck with pallets to unload and stack and have a better insulated packing shed for cold weather operation."

"If we were to start all over we would plan everything on the basis of pallet handling. To do this, all facilities should be on one floor."

#### Key to Success

In answer to the question, "If you have any key to success, what would it be?" a varied number of answers were received. One grower mentioned a small room in his cold storage holding three truckloads of apples ready to ship. Another believed the key to his success was handling the fruit wherever possible on pallets. Picking and packing by piecework was the key for another.

"Move everything by gravity," said one grower. "Train crew well and have plenty of conveyors," was another idea; while one grower said, "Our key to success is our new cold storage which enables us to store apples the day they are picked and fresh pack during the winter and spring, giving more orderly marketing and our customers a better pack."

Probably the most practicable advice was given by Richard Crane of Fennville, Mich., who said, "Trust in God, observe closely, study carefully, and work hard." With such a commonsense formula, it would be hard not to succeed.

THE END

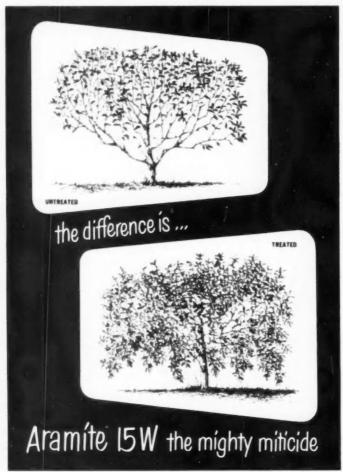




# "Hitch" Your CLARK Fork Trucks TO THESE Star Attachments

Every CLARK fork-lift truck saves money a lot of money-for its user. Some save more than others because they are used more effectively - more efficiently - more regularly. They aren't allowed to stand idle "in between jobs." Demountable CLARK attachments enable them to do at great savings many jobs outside the popular concept of materials handling (snow plowing, coal shoveling and plant maintenance work, for example), and to do more and better jobs within that concept. Let CLARK help you make the most of and get the most from your fork-lift trucks. For your profit's sake, talk over your handling operations with the CLARK dealer nearest you-he's listed in the Yellow Pages of your telephone book.

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MOUSTRIAL TRUCK Please send: Name Firm Name	Basic Facts	Book.   Conde	ensed Catalog	
Name	Basic Facts	Book.   Conde	ensed Catalog	



Controls

European Red Mite, Pacific Mite, Two-Spotted Mite, Clover Mite and many others very effectively at economical dosages.

Results:

More top-quality apples (tree illustrated above), peaches, almonds and walnuts

Advantages: Non-hazardous, low cost per acre, works well with most commonly used fungicides and insecticides, harmless to mite-killing insects, gives no unpleasant flavor nor odor to fruit.

Consult your local experiment station for recommended desages, spray schedules and customary safety measures.



#### UNITED STATES RUBBER COMPANY

Naugatuck Chemical Division, Maugatuck, Connecticut

manufacturers of seed protectants Spergon Spergon DD1, Spergon DD1, Spergon DD1, St., Phygon Seed Protectant, Phygon Naugets, Phygon Xt. DD1, Thram Naugets <u>fungicides</u>—Spergon Wettable, Phygon XL <u>insecticides</u>—Spergon Wettable, Dust, Phygon Rose Dust <u>- muterides</u>—Aramite

#### FRUIT FLOW

(Continued from page 13)

After the amount of space has been determined which is needed for receiving, preliminary storing, production, final storing, and shipping, the next move is to correlate them properly. The tools to use for this purpose are large-scale drawings in which structural features are correctly located. If the building is in the planning stage you will have to approximate the outline of the structure.

Templates of all machines should be made, drawn to the same scale as the building. Finally, varied colored pencils are needed with which to trace the movement of materials, supplies, and operators.

## Basic Principles of Good Layout UTILIZATION

Space is best utilized when fullest use is made of both area and volume. "Air rights," a comparatively new concept, are always considered in planning new buildings. Frequently overhead space can be made available in an old layout, particularly if presently available methods can be and are used. Many new types of conveying equipment are available for transporting materials and supplies through overhead space.

Space provided for efficient work areas is used wisely. Operators need ample "elbow room" if they are to produce at their best.

#### FLOW

A straight line is the most economical path of travel. Time and energy are conserved when movements follow the shortest distance between two points.

A good flow line advances logically from each operation to the one next in sequence. Just as a smooth-flowing stream moves on and on, so a good flow line moves steadily forward from receiving, through production, and on to shipping.

Flow should be continuous. Each time progress is stopped there usually is a secondary handling operation. Each such interruption should be studied critically with the view of finding a way to eliminate it.

The best travel line for men and nobile equipment lies in a horizontal plane. Ramps not only break the flow rhythm, they are costly in the power required for mechanical equipment and, in the case of manual operation, frequently call for the use of more manpower than if the travel surfaces were level.

Consistent with good engineering and sound economics, structural features should impede flow as little as possible. It would not pay to erect a building without supporting columns if the cost were greater than the economies it might effect. However, when columns are used, they should be located and spaced so that they offer the least possible interference in active areas and in storage places. Door openings should be wide enough to prevent their being possible bottlenecks.

The fewer the floors, the better the flow. This is a general statement. There are industries in which materials can be taken to upper stories and good flow secured by progressive passage downward—usually by gravity. In the majority of plants, however, elevator trips, especially if identical unit loads are moved up and down, are vertical "back-tracks"—a type of movement which should be avoided wherever possible.

#### Types of Layouts

Now let us look at some typical arrangements. The different types in the drawing on page 13 have been designated by the capital letters suggested by their appearances. The fact that the various centers of activityreceiving (R), preliminary storage (ST), production (P), final storage (ST), and shipping (S), have been indicated by symbols in circles and triangles does not mean that these operations are carried on in small, isolated areas. In fact, they are usually spread out and may even be performed in separate buildings. The purpose is to show the general flow and that even when the flow line twists and turns, the progress is always forward toward the next ele-

These layouts show only the flow of the product. The same principles, however, control the arrangement of subsidiary supply lines. The final picture will resemble a main river fed by brooks and streams.

These simple diagrams serve to emphasize the importance of the relative positions of the receiving and shipping centers. These are usually determined by the location of railroad sidings and highways, so that the general layout must, to a great extent, fit the limitations they impose.

Time is another factor to be considered in planning the receiving and shipping facilities. If receipts and shipments are to be handled simultaneously, the two activities must be carried on at different locations. If the time elements do not overlap, the same facilities can be used for both operations without creating inefficient cross traffic and bottlenecks. Providing for such situations during the planning stage, or correcting the flow in a plant where it is snarled up, can frequently make the difference between a costly and a profitable THE END operation.

## EASE UP



## and the Model "AO" Tractor

The easiest, most accurate implement control . . . the fastest most precise work you've ever known are all yours with John Deere hydraulic Powr-Trol and the Model "AO" Tractor.

An easy movement of the convenient Powr-Trol lever raises, lowers or sets equipment at any position desired. By a touch of your hand, as needed, you keep equipment working at an even depth . . . stay out of trouble—prevent miring down—by instantly adjusting the load to meet ground conditions. You'll work faster, thanks to the six forward speeds of the "AO" . . . do the work better through greater maneuverability, easier steering plus "on-the-spot" implement control through hydraulic Powr-Trol.

See your John Deere dealer at your first opportunity and learn how Powr-Trol and the Model "AO" Tractor can bring you the easiest, fastest work you've ever known,

JOHN DEERE . MOLINE, ILL



## BUYER'S GUIDE FOR THE FRUIT FARM

#### CLASSIFIED INDEX

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E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.

#### FLUORINE COMPOUNDS

Aluminum Co. of America, Chemicals Div., Pittsburgh, Pa. California Spray-Chemical Corp., Richmond Calif. & Elizabeth, N.J. Chipman Chemical Co., Inc., Bound Brook, N.J. E. J. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, De., General Chemical Div., Allied Chem. & Dye Corp., New York, NY. Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, NY., Pennsylvania Salt Mfg. Co., Philadelphia, Pa.

#### LINDANE

California Spray-Chemical Corp., Richmond, Calif.; Elizabeth, N.J.

#### MALATHON

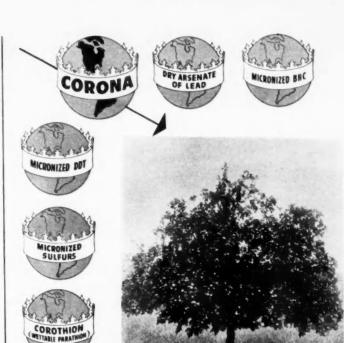
American Cyanamid Co., Agricultural Chemicals Div., New York, N.Y.

#### METHOXYCHLOR

E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del. Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N.Y.

#### NICOTINE

Nicotine Sulphate
American Nicotine Co., Henderson, Ky.
Cilifornia Soray-Chemicai Corp., Richmond,
Calif., & Elizabeth, N. J.
Central Chemical Corp., Higgerstown, Md.
General State Corp., Higgerstown, Md.
General State Corp., Higgerstown, Md.
James Good Co., Phildelphin, Pa.
Kay-Pries Chemicals, Inc., New York, N.Y.
Miller Preducts Co., Portland, Ore.
Nizgara Chemical Div., Food Machinery &
Chemical Corp., Middleport, N.Y.
Nico-Dust Co., Los Angeles, Calif.
Nicotine Production Corp., Clarksville. Tenn
B. G. Pratt Co., Hackensack, N. J.
Sherwin-Williams Co., Cleveland, Ohio
Tobacco By-Products & Chemical Corp., Richmond, Vs. Nicotine Sulphate mond, Va. Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.





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Emulsions and Miscible Oils Summer Oils, Dormant Oils, Tar Emulsions

cony-Vacuum Oil Co., New York, N.Y. andard Agricultural Chemicals, Inc., Hoboken, N.J. Standard Oil Co., of Indiana, Chicago, Ill. Sun Oil Co., Philadelphia, Pa. Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.

#### PARATHION

PARATHION

American Cyanamid Co., Agri, Chemicala Div., New York, N.Y.

Chipman Chemical Co., Inc., Bound Brook, N.J.

Corona Chemical Div. of Pittsburgh Plate Glass
Co., Milwaukee, Wis., and Moorestown, N.J.

Dow Chemical Co., Midland, Mich.

Florida Agrie. Supply Co., Div. of Wilson &

Toomer Fertilizer Co., Jacksonville, Fla.

Corp., New York, N.Y.

Miller Products Co., Portland, Ore.

Monsanto Chemical Co., St. Louis 4, Mo.

Niagara Chemical Div., Food Machinery &

Chemical Corp., Midledport, N.Y.

Pittsburgh Coke & Chemical Co., New York, N.Y.

Stauffer Chemical Co., New York, N.Y. & San

Francisco, Calif.

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#### PYRETHRUM AND DERIVATIVES

Agreide, Inc. Racine, Wi. Central Chemical Corp., Hagerstown, Md. Farnam Co., Omaha, Nebr. Central Chemical Corp., Hagerstown, Md. Farnam Co., Omaha, Nebr. General Chemical Div., Allied Chem. & Dyc. Corp., New York, NY. Kay-Fries Chemicals, Inc., New York, N.Y. McLaughlin Gornely King, Minneapolis, Minn. Miller Products Co., Portland, Orc. R. G. Pratt Co., Hackensack, N. J. Sterling Chemicals, Inc., Newark, N.J.

#### ROTENONE PRODUCTS

ROTENONE PRODUCTS

Agricide, Inc., Racine, Wis.
American Agricultural Chemical Co., New York.
7, N.Y.
Bonide Chemical Co., Utica, N.Y.
California Spray-Chemical Corp., Richmond.,
Calif., & Elizabeth, N.J.
Autorial Chemical Corp., Hagerstown, Md.
Chuman Chemical Corp., Hagerstown, Md.
Chuman Chemical Co., Inc., Found Brook, N.J.
Corona Chemical Div., of Pittsbursh Plate Glass.
Co., Milwaukee, Wis., and Moorestown, N.J.
Corona Chemical Div., Allied Chem. & Dye.
Corp., New York, N., Haltimore, Md.
McLaughlin Gormley King, Minneapolis, Minn.
Nisana Chemical, Div., Food, Machinery &
Chemical Corp., Middleport, N.Y.
S. B. Penick & Co., New York, N.Y.
H. G. Pratt Co., Hackensack, N.J.
Stauffer Chemicals, Inc., Newark, N.J.
Swift & Co., Plant Food Div., Hammond, Ind.,
Los Anucles, Calif., & Winter Haven, Pla.
Woodfolk Chemicals, Inc., Newark, N.J.
Swift & Co., Plant Food Div., Hammond, Ind.,
Los Anucles, Calif., & Winter Haven, Pla.
Woodfolk Chemical Works, Ltd., Pl., Valley, Ga.

#### TETRAETHYL PYROPHOSPHATE

TETRAETHYL PYROPHOSPHATE
California Spray-Chemical Corp., Richmond,
Calif., & Elizabeth, N.
Central Chemical Corp., Hagerstown, Md.
Florida Agrie. Supply Co., Div. of Wilson &
Toomer Fertilizar Co., Jacksonville, Fla.
Of. Linek Co., Inc., Utfon, N.J.
Kitton, N.J.
Kitton, N.J.
Kitton, N.J.
Kitton, N.J.
Kitton, N.J.
Winsarta Chemical Co., St. Louis, Mc.
Niagarac Chemical Co., St. Louis, Mc.
Stauffer Chemical Co., San Francisco, Calif.
Tohacon By-Products & Chemical Curp., Richmond. V.
Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.

#### TOXAPHENE

Agicide, Inc. Racine, Wis. California Spray-Chemical Corp., Richmond, Calif., & Elizabeth, N.J.

Chipman Chemical Co., Inc., Bound Brook, N.J.,
Corons Chemical Div. of Pittsburgh Plate Glass
Co., Milwaukee, Wis., and Moorestown, N.J.,
Florida Agree, Supply Co., Div. of Wilson &
George Perthiser Co., Acksonellie, Fia.
George, New York, N. Allied Chem. & Dye
Hercules Powder Co., Wilmington, Del.
Ningars Chemical Div., Food Machnery &
Chemical Corp., Middleport, N.Y.
Pennsylvania Salt Mig. Co., Philadelphia, Pa.
Stauffer Chemical Co., New York, N.Y., San
Francisco, Calif.
Thompson Horticultural Chemicals, Corp., Los
Angeles, Calif.

Angeles, Calif. Woolfolk Chemical Works, Ltd., Ft. Vailey, Ga.

#### ZINC SULPHATE

ZINC SULPHATE

Hrookiyne Chemical Co., Baltimore, Md.
California Spray-Chemical Corp., Richmond.
Calif. & Elizabeth, N.J.
Central Chemical Corp., Richmond.
Calif. & Elizabeth, N.J.
Co., Milwaukee, Wis, and Moorestown, Md.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemical Spept, Wilmington, Del.
General Chemical Div., Allied Chem. & Dye
Corp., New York, N.Y.
Glidden Co., Cleveland, Ohio
Harshaw Chemical Co., Cleveland, Ohio
Harshaw Chemical Co., Cleveland, Waschinery &
Niler Products Co., Portland, Or.
N.
Chemical Corp., Middleport, N.Y.
Shewnin-Williams Co., Cleveland, Ohio
Tennessee Corp., Atlanta, Ga.
Vignina Smelting Co., West Norfolk, Va.
Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.

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Dry Lime Sulphur
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Central Chemical Co., Hagerstown, Md.:
Chipman Chemical Co., Inc., Bound Brook, N.J.
Corona Chemical Div. of Pittaburgh Plate Glass
Co., Midwalce, Wis., and Moorestown, N.J.
Dow Chemical Div., Allied Chem. & Dye
Corp., New York, N.Y.
Corp., New York, N.Y.
Chemical Corp., Middleport, N.Y.
Sherwin-Williams Co., Cleveland, Ohio

#### Liquid Lime Sulphur

Liquid Lime Sulphur
California Spray-Chemical Corp., Richmond,
Calif., and Elizabeth, N. J.
Central Chemical Corp., Hagerstown, Md.
Dow Chemical Corp., Hagerstown, Md.
Dow Chemical Corp., Hagerstown, Md.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., R. & H.
Chemicals Dept., Pacific Div., El Monte, Calif.
Florida Agric. Supply Co., Div., El Monte, Calif.
Florida Agric. Supply Co., Div., El Monte, Calif.
Florida Agric. Supply, J. Allied Chem. & Dye
Corp., New York, N. Y.
General Chemical Div., Allied Chem. & Chemical Corp., Middleport, N.Y.
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Wettable Sulphur
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Camden Coke Plant, Camden, N.J.
Central Chemical Corp., Hagerstown, Md.
Chipman Chemical Corp., Hagerstown, Md.
Chipman Chemical Co., Inc., Bound Brook, N.J.
Corona Chemical Co., with Chemical Plate Glass
Co., Milwaukee, Wis., and Moorestown, N.J.
Wethenical Co., Midland, Mich.
Dec., Grasselli Chemicala Dept., Wilmington, Del.
E. I. du Pont de Nemours & Co., Inc., R. & H.
Chemicala Dept., Pacific Div., El Monte, Calif.
Florida Agrie, Supply Co., Div., of Wilson &
Toomer Fertilizer Co., Jacksonville, Pla.
General Chemical Div., Allied Chem. & Dye
Corp., New York, N.Y.
Koppers Products Co., Pittsburgh, Pa.
Miller Products Co., Portland, Ore.
Ningara, Chemical Div., Food Machinery &
Ningara, Chemical Div., Food Machinery &
Shewin-Williams, Co., Cleveland, Ohio
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Francisco, Calif.
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California Spray-Chemical Corp., Richmond.
Calif., and Elizabeth, N. J.
Central Chemical Corp., Hagerstown, Md.
Chipman Chemical Co., Ine., Bound Brook, N.J.
Corota Chemical Div. of Pittsburgh Flate Glass
Co., Milwankee, Wis, and Moorestown, N.J.
Dow Chemical Div., and Moorestown, N.J.
Miller Irondenical Div., Alifed Chem. & Dye
Corp., New York, N.Y.
Miller Irondenical Corp., Portland, Gre.
Miller Irondenical Corp., Middleport, N.Y.
Pheiro, Dodge Refining Corp., New York, N.Y.
Sherwan, Williams Co., Cleveland, Ohio
Tempessee Corp., Atlanta, Ga.
Woutfolk Chemical Works, Ltd., Ft. Valley, Ga.
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Insoluble (Fixed Coppers)

Insoluble (Fixed Coppers)
Agricide, Inc., Raeine, Wis.
Coppers)
Agricide, Inc., Raeine, Wis.
California Spray-Chemical Corp., Richmond,
Califf., and Elizabeth, N. J.
Central Chemical Corp., Hauerstown, Md.
Chipman Chemical Corp., Hauerstown, Md.
Chipman Chemical Corp., Hauerstown, M.J.
Corona Chemical Div., Food Marchine Class
Co., Milwaukee, Wis., and Moorestown, N.J.
Chemicals Dept., Wilminaton, Deb., Gransellt
Chemicals Dept., Wilminaton, Deb., Gransellt
Chemicals Dept., Wilminaton, Deb., Gransellt
Chemicals Div., Allied Chem. & DyeCorp., New York, N.Y.
Miller Products Co., Portland, Ore.
Nissura Chemical Div., Food Machinery &
Chemical Corp., Middlepert, N.,
Nissura Chemical Div., Food Machinery &
Chemical Corp., Middlepert, N.,
Pholis Bodge Retining Corp., New York, N.Y.
R. G. Pratt Co., Hackensick, N.J.
Rohm & Haus Co., Philadelphia, Pa.
Sherwin-Williams Co., Cleveland, Ohio
Stanffer Chemical Co., New York, N.Y. & San
Francisco, Calif.
Swift & Co., Plant Food Div., Los Angeles,
Laiff. & Winter Haven, Fla.

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Soluble Copper Sulphate

Soluble Copper Sulphate
Agicide, Inc., Racine, Wis.
California, Spray-Chemical Corp., Richmond,
Calif., & Elizabeth, N.J.
Carbola Chemical Corp., Hagerstown, Md.
Chimae Chemical Co., Inc., Natural Bridge, N.Y.
Central Chemical Co., Inc., Round Hrook, N.J.,
Chimae Chemical Co., Inc., Bound Hrook, N.J.,
Chemicals Dept., Wilmington, Inc., R. & H.
Chemicals Dept., Wilmington, Inc., R. & H.
Chemicals Dept., Wilmington, Inc., R. & H.
Chemicals Dept., Wilmington, Del.
Miller Products Co., Cleveland, Ohio
Hercules Powder Co., Inc., Wilmington, Del.
Miller Products Co., Portland, Ore.
Niagara Chemical Div., Food Machinery &
Chemical Corp., Middleport, N.Y.
Phelps Dodge Refining Corp., New York, N.Y.
Stauffer Chemical Co., New York, N.Y. & San
Francisco, Calif.
Francisco, Calif.
Chemical Works, Ltd., Ft. Valley, Gs.
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General Chemical Div., Allied Chem. & Dye.
Corp., New York, NY.
Corona Chemical Co., St. Louis. Mo.
Nilwaria Chemical Co., St. Louis. Mo.
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Critical State. Gypenin Co. Chemica, Ill.
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Warner, Chi. Reliefont, Co. Tolodo, Ohio.
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Gentral Saya Co., Fort Grop, New York, N.Y.
Gentral Chemical Corp., Hauerstown, M.J.
Golache-Palmolive Peet Co., Jersey City, N.J.
Golfindal Preducts Grop., San Francisco, ColifCommon Chemical Div. of Pittsburgh Plate Glass
Co., Milayatkee, Wis, and Minneatown, N.J.
Crystal Sons & Chem. Co., Philadelphia, Pa.
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Girler Co., Sova Products Div., Chicaro, Ill.
James Gond Co., Philadelphia, Pa.
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Kay-Fries Chemicals, Inc., New York, N.Y.
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Nestrond (Ill Products Co., Marynon, N.,
Corp., New Corp., N. R. Long, M.
Monagant Chemical Co., St. Long, M.
Nestrond (Ill Products Co., Marynon, N.,
Corp., M. Miller Chemical, Co., New York, N.Y.
Lever Bros., Cambridge, Mass.
Monagant Chemical Co., St. Long, M.
Nestrond (Ill Products Co., Marynon, N.,
Corp., Miller Co., Marynon, N.,
Corp., M. Miller Chemical, Co., New York, N.Y.
Lever Bros., Cambridge, Mass.
Monagant Chemical Co., New York, N.Y.
Lever Bros., Cambridge, Mass.
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M. B. Fratt Co., Hackensack, N.J.

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American Chemical Patrictics, Ambler, Pa.
American Chemical Patrictics, Ambler, Pa.
American Chemical Patrictics, Ambler, Pa.
American Chemical Patrictics, Agricultural Chemicals, Pa.
American Chemical Co., Inc., Bound Brook, N.J.
Chemical Chemical Div. of Pittsburgh Pitts Gluss
etc., Milwanker, Was, and Moorestown, N.J.
Icar Chemical Co., Medical Mod.
b. I. do Pour de Nomoure & Co., Inc., Grasselli
Element, Deut, W. Innugatoo, Inc.
Fedina Inc., New York, N.Y.
General Chemical Works, N. Wark, N.J.
Moonard Chemical Works, N. Wark, N.J.
Ningara Chemical Liv., Fond Machinery &
Chemical Corp., Mindepone, N.Y.
Pittsburgh Edike & Chemical Co., New York, N.Y.
Standard Agricultural Chemicals, Inc., Mohokeo,
N.J.
Standard Chemical Co., Sun Francisco, Co. P.

AMMONIUM SULFAMATE

E. L. du Pout de Nemoure & Co., Inc., Grassells Chemical: Dept., Wilmington, Del Meller Chem. & Fertilizer Corp., Baltimere, Md. BUTYL PHENOL

California Siray-Chem. Corp., Richmond. Calif. & Elizabeth. N.J. Duse Chemical Co., Mulland. Mich. Standard Agricultural Chemicals. Lic., Hoberton N.J.

IPC Dox Chemical Co. Midland, Mich. Standard Agricultural Chemicals, Inc., Hobo-kes, N.J. N.I.X.

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Calli & Elizabeth N. Hayerstown, Md.
Chuman Chemical Corp. Hayerstown, Md.
Chuman Chemical Cr., Inc., Bound Brook, N.f.
General Chemical Div., Allied Chem. & Dye
Corp., New York, N.Y.
James Good Vo., Philadelphia, Pa.
Millor Products Ca., Portland, Ore.
N. Son Chemical Chem. of Stauffer Chem. Co.,
N. Son Chemical Chem.
Standard Chem.
Standard Chem.
Standard Chem.
Standard Chem.
Sherwin-Williams Co., Chewland, Ohto
Sherwin-Williams Co., Chewland, Ohto SODIUM ARSENITE SODIUM CHLORATE

alifornia Spray-Chemical Corp., Richn Cabl., & Elizabeth, N.J. hitioma Chemical Co., Bound Brook, N.J. jarshaw Chemical Co., Cleveland, Ohio lorik & Co., Inc., Bahway, N.J. contectionia Sali, Mu. Co., Philadelphia contectionia Sali, Mu. Co., Philadelphia California Sodium Salt of Dinitro-Ortho-Cresol Sherwin Williams Co. 4 Standard Ager Chem I Hoboken N.J.

TCA Dow Chemical Co. Midland Mich. E. I. du Pont de Nemours & Co. Inc., Grasselli Chemical Dept., Witnington, Del. Standard Agricultural Chemicals, Inc., Hobo-ken, N.J.

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Bridgeport Brass Co., Bridgeport, Conn. General Chemical Div., Allied Chem. & Dye. Corp., New York, N.Y. Virginia Smelling Co., W. Norfolk, Va.

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ETHYLENE DICHLORIDE

Carbide & Carbon Chemicals Co., A. Div. of Union Carbide & Carbon Corp., New York, N.Y. Crystal Soap & Chemical Co., Inc., Philadelphia, Ph.

Pa Dow Chemical Co., Midland, Mich., Miller Products Co., Portland, Ors., Nissara Chemical Div., Food Machinery & Chemical Corr., Middleport, N.Y. Philipp Bros. Inc., New York, N.Y. Westvaco Chemical Div., Food Machinery & Chemical Corp., New York, N.Y.



#### METHYL BROMIDE

California Spray-Chemical Corp., Richmond, Calif & Elizabeth, N.J. Dow Chemical Co., Middand, Mich., Michigan Chemical Co., St. Louis, Mich. Westvaco Chemical Div., Food Machinery & Chemical Corp., New York, N.Y.

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California Spray-Chemical Cup, Richmond, Calif. & Elizabeth, N.J.
Central Chemical Corp., Hagoratown, Md.
Columbia Chemical Div., Phtsburgh Plate Glass Co., Pittsburgh, Pa.
Crystal Soap & Chem. Co., inc., Philadelphia, Pa.
Low Chemical Co., Midland, Mich.
Genteral Chemical Div., Allied Chem. & Dye
Corp., New York, N.Y.
Harshaw Chemical Co., Cleveland, Ohio
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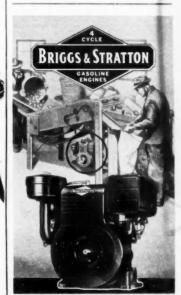
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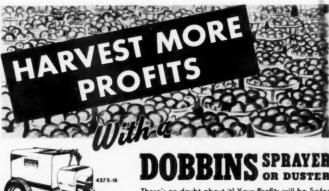
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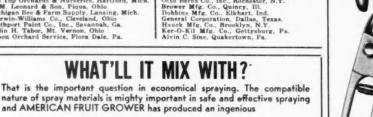
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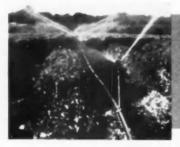
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Merchants Basket & Box Co., St. Louis, Mo. Rice, Trew & Rice Co., Biglerville, Pa. Simplex Paper Corp., Adrian, Mich. Tyson Orchard Service, Flora Dale, Pa. Webster Basket Co., Webster, N.Y.

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Durand Co., Woodbury, Ga.
Food Machinery & Chemical Corp., Packing
Equip. Div., Riverside, Calif.
Friend Mig. Co., Gasport, N.Y.
Grabill Mig. Co., Winchester, Va.
Harrah Mig. Company, San Mateo, Calif.
Ideal Grader & Equip. Co., Hood River, Ore.
Lobee Pump & Mehy. Co., Gasport, N.Y.
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Mich.

F. B. Pease Co., Rochester, N.Y. The Taylor Grader, Anna, Ill.
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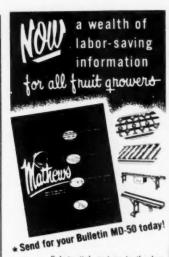
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Durand Co., Woodbury, G.
Food Machinery & Chemical Corp., Packing
Equip, Div., Riverside, Calif.
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Wayland Machinery Co., Covesville, Va.

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# From where I sit ... by Joe Marsh

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"Harry the Hermit" dropped in to see Judge Cunningham the other day and started complaining about that dilapidated house he lives in over near Greenwood Lake.

"Who's my landlord?" Harry wanted to know. "Whoever you pay rent to," says the Judge. "Don't pay rent," says Harry. "Moved into that house 12 years ago. Nobody ever came to collect."

"Well," says the Judge, mystified, "what do you have to complain about?" "Plenty," replies Harry. "Rain's pouring in my living room. If someone doesn't fix

that roof, I'm moving out!"

Now Harry was only having a little joke, but from where I sit I've seen people act just about as nervy as this sometimes - seriously. Like those who enjoy all the rights Americans have worked for. and yet would take away some of those freedoms from others-for example, our right to enjoy a friendly glass of beer. I say these "leaks of intolerance" have no place in the "home of liberty."

Goe Marsa

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Continental Box Co., Inc., Houston 1, Texas
General Rox Co., Des Plaines, Illinois
Indianapolis Wire Bound Box Co., Indianapolis
7, Ind.

7. Ind.
Marinette & Menominee Box Co., Marinette,
Wis.
Package Research Laboratory, Rockaway, N.J.
Wisconsin Box Co., Wausau, Wisconsin

BOXES AND CRATES, WOOD

BOXES AND CRATES, WOOD
Actna Bottle & Container Co., St. Louis, Mo. Atlas Boxmakers, Inc., Chicago, Jil.
John Bacon Co., Gasport, N.Y.
Barden & Robeson Corp., Lockport, N.Y.
Berrywille Banket Co., Inc., Berrywille, Va.
H. A. Du Bois & Sons, Inc., Cobden, Ill.
Evansville Container Co., Evansville, Inc.
General Box Co., Chicago, Ill.
Green Co., Inc., New York, N.Y.
F. W. Harrison & Son, Painewille, Ohio
Kenova Box Co., Kenova, W. Vr.,
Marinette & Menominee Box Co., Marinette,
Wis.

Marinette & Menominee Box Co., Marinette, Wis. Wis. Wis. Wis. Co., Richmond, Va. Miller Mrg. Co., Richmond, Va. National Wooden Box Assn., Washington, D.C. New Albany, Box & Basket Co., New Albany, Ind. New England Box Co., New York, N.Y. Package Research Lisboratory, Rockaway, N.J. Rathborne, Hair Asserting, Toledo, Ohio Rathborne, Hair Asserting, Toledo, Chicago, Ill. Sonce Box Co., Cleveland, Ohio Softus Basket Co., Sodus, N.Y. Spruce Veneer Package Corp., Payallup, Wash. Traub Container Corp., Cleveland, Ohio Captions, Consulmed.

CARTONS, CONSUMER

CARTONS, CONSUMER
American Box Board Co., Grand Rapida, Mich.
Atlas Boxmakers, Inc., Chicago, Ill.
Container Corp. of America, Chicago, Ill.
Fibreboard Products, Inc., San Francisco, Calif.
Fruit & Produce Packing Co., Indianapolis, Ind.
Friday Pack Co., Portland, Ore.
Robert Gair Co., Inc., New York, N.Y.
Gaylord Container Corp., St. Louis, Mo.
The Hinde & Dauch Paper Co., Sandursky, Ohio.
Maryland Container Co., Baltimore, Md.
Ohio Boxboard Co., Rittman, Ohio
Ohio Boxboard Co., Rittman, Ohio., Ill.
Producer's Exchange, Inc., Toledo, Ohio
Sutherland Paper Co., Kalamastoo, Mich.
Wabash Fibre Box Co., Terre Haute, Ind.

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# Cushions

Cushions

F. D. Croce & Co., Inc., New York, N.Y.
Fruit & Produce Packing Co., Indianspolis, Ind.
Georgia Cushion & Wrapper Co., Indianspolis, Ind.
Keyes Fibre Sales Corp., New York, N.Y.
Kimberly-Clark Corp., New York, N.Y.
Kimberly-Clark Corp., Neenah, Wis.
Merchants Basket & Box Co., St. Louis, Mo.
Producer's Exchange, Inc., Toledo, Ohio
Rice, Trew & Rice Co., Biglerville, P.
Simplex Paper Corp., Adrian, Mich.
Fred C. Strype, New York, N.Y.
Sutherland Paper Co., Kalamazoo,
Hyaon Orchard Service, Flora Dale, Pa.
Webater Basket Co., Webster, N.Y.

# Films and Foils

Films and Foils
Aluminum Co. of America, Pittsburgh, Pa.
Brooks Paper Co., St. Louis, Mo.
Celanese Corp. of America, New York, N.Y.
Declanese Corp. of America, New York, N.Y.
Declanese Corp. of America, New York, N.Y.
Declanese Co., Indiana, Mich.
E. d. of Co., Indiana, Mich.
E. d. of Co., Indiana, Dist.
Goodyear Tire & Rubber Co., Akron, Ohio
Newark Paraffine & Parchment Paper Co.,
Newark S. N.J.
Declanese Products, Inc., Clitton, N.J.
Producer's Exchange, Inc., Toledo, Ohio
Reynolds, Metals Co., Louisville, Ky
Traver Corp., Chicago, Ill.

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or

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- "Very fine for produce rack display we shine apples and they really stand

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54

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Continental Paper Products Co., Denver, Colo. Fruit & Produce Packing Co., Indianapolis, Ind. Georgia Cushion & Wrapper Co., Woodland, Georgia Cushion & Wrapper Co., Woodland, Georgia Cushion & Wrapper Co., Colo. Colo. Pioneer Paper Stock Co., Chicago, Ill. Producer's Exchange, Inc., Toledo, Ohio Rice, Trew & Rice Co., Riglerville, Pa. Simplex Paper Corp., Adrian. Mich. Sutherland Paper Co., Kalamazoo, Mich. Tvson Orchard Service, Flora Dale, Pa.

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Labels and Tags
American Colortype Co. Chicago, Ill.
Bartlett Label Co., Kalamazoo, Mich.
Brandau-Craig-Dickerson Co., Nashville, Tenn.
Dennison Mfg. Co., Framingham, Mass.
Fitreboard Products, Inc., San Francisco, Calif.
Matyland Container Co., Baltimore, Md.
J. L. May Co., New York, N.Y.
Mürcist Inc., Milwanker, Wis.
Michiel Line, Milwanker, Wis.
Bernolds Metals L. Sonwille, Ky.
Schmidt-Lithograph Co., San Francisco, Calif.
Liners

herryville Hasket Co., Inc., Berryville, Va., Continental Paper Products Co., Denver, Colo. Frank L. Deaner & Son, Inc., Sodus, Mich. Evans the Container Co., Evansville, Ind. Ind. Franking Co., Evansville, Ind. Ind. Franking Co., Indianaselie, Ind. Indianaselie, Indi

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H. K. PORTER, INC. Somerville 43, Mass.

Marking Devices

Cushman & Denison Mfg. Co., New York, N.Y. Kin-E-Matic Mach.-Engng. Co., Dearborn, Mich. Rivet-O Mfg. Co., Orange, Mass.

Packaging Machinery

Fruit Packette Corp., New York, N.Y.
Oliver Machinery Co., Grand Rapids, Mich
Package Machiner Co., Springfield, Mass.
Saranae Machine Co., Benton Harbor, Mich
Stokes & Smith Co., Div Food Machinery
Chemical Corp., Philadelphia, Pa. Mich.

Pade

Cinfornia Container Corp., Emervyille, C-ivi Continental Paper Products Co., Denver, Colo. Frank L. Beaner & Son, Inc., Sodus, Mich. Fruit & Produce Packing Co., Indianapolis, Ind. Gaylord Container Corp., St. Louis, Mo. Kimberly-Clark Corp., Neenah, Wis. New Albany, Bos & Basket Co., New Albany, Ind. Producer's Exchange, Inc., Toledo, Ohio Rice, Trew & Rice Co., Biglerville, Pa. Fred C. Strype, New York, N.Y. Tvson Orehard Service, Flora Dale, Pa. Webster Basket Co., Webster, N.Y.

John Bacc; Go, Gasport, N.Y.
Brooks Paper Co., St. Louis, Mo.
Diamond-Twaxed Paper Corp., Chicago, Ill.
E. I. du Pont de Nemours & Co., Inc., Film
Dept., Wilmington 98, Del.
Fruit & Produce Packing Co., Indianapolis, Ind.
Kalamazoo Vegetable Parchment Co., Parchment, Mich.
Merchants Hasket & Box Co., St. Louis, Mo.
Newark, Paraffine & Parchment Paper Co.,
Newark, No., Parchment, Paper Co.,
Fred C. Strype, New York, N.Y.,
Sylvania Industrial Corp., New York, N.Y.
Tyaon Orchard Service, Flora Dale, Na.
Webater Basket Co., Webster, N.Y.

Protective Coatings Protective Coatings
Food Machinery & Chem. Corp., Riverside, Calif.
B. F. Goodrich Chemical Co., Cleveland, Ohio.
Goodysar Tire & Rubber Co., Akron, Ohio.
West Atlantic Corp., New York, N.Y.
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Rivet-O Mfg. Co., Orange, Mass.
Tyson Orchard Service, Flora Dale, Pa..

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Wrappers

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AMERICAN FRUIT GROWER



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Allen Billmyre Div., Lamson Corp., Syracuse,

N.Y.
American Blower Corp., Detroit, Mich.
Buffalo Forge Co., Buffalo, N.Y.
Carrier Corp., Syracuse, N.Y.
Clarage Fan Go., Kalamatoo, Mich.
De Vilhiss Co., Toledo, Ohio
Frick Company, Waynesburo, Pa
Frigidaire Div., General Motora Corp., Dayton,
Ohio

Chio Chio Chenga Mondield, N.J. Ing Beletric Co., Bloomfield, N.J. Ing Beletric Ventilating Co., Chicago, Ili. Merce Co., Chicago, Ili. Merce Co., Chicago, Ili. Merce Co., Chicago, B. Calif. Nash-Kelvinator Co., New York, N.Y. Northern Blower Co., New York, N.Y. Northern Blower Co., Cleveland, Ohio Reynolds Mfg. Co., Comstock Park, Mich. Robinson Fan Corp., Gilroy, Calif. Weatern Blower Co. Seattle, Wash. Westinghouse Electric Corp., Pittsburgh 36, Pa.

Pa.
Worthington Pump & Machinery Corp., Harrison, N.J.

Building Papers

Angier Corp., Framingham, Mass.
Barrett Div., Allied Chemical & Dye Corp.,
New York, N.Y.
Bird & Son, Inc., E. Waipole, Mass.
The Philip Carey Mfg. Co., Lockland, Cincin-Celotex Corp., Chicago, Ill.
The Ruberoold Co., New York \$6, N.Y.
Sisalkraft Co., Chicago, Ill.

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Conveyors

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Calif. Friend Mfg. Co., Gasport, N.Y. Friend Mfg. Co., Gasport, N.Y. Lamson Corp., Syracuse, N.Y. Link-Belt Co., Chicago, Ill. Mathews Conveyer Co., Ellwood City, Pa. Metager Co., Grand Rapids, Mich. Rapids-Standard Co., Inc., Grand Rapids, Mich. Standard Conveyer Co., N. St. Paul, Minn. Treacut Co., Inc., Fairport, N.Y.

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Mich.
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Rapida-Standard Co., Inc., Grand Kapids, Mich.
Trescott Co., Inc., Pairport, N. J.
Triangle Equip. Co., Inc., Nutley, N. J.
Troyer Mfg. Co., Smithville, Ohio

Doors.

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Bernard Glockler Co., Pittsburgh, Pa.
Harris Ice Machine Works, Portland, Ore.
Jamison Cold Storage Door Co., Hagerstown,

Md. National Refrigerator Co., St. Louis, Mo. Truscon Steel Co., Youngstown, Ohio York Corp., York, Pa.

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Carrier Corp., Syracuse, N.Y.
Frick Company, Waynesboro, Pa.
Frightire Div., General Motors Corp., Dayton,
Ohm. Electric Co., Bloomfield, N.J.
Illy Electric Ventilating Co., Chicago, Ill.
Westinghouse Electric Corp., Pittsburgh 30.
Pa. Pa Worthington Pump & Machinery Corp., Har-rison, N.J.

Hydrometers and Hygrometers

Bristol Co., Waterbury 20, Conn.
Eimer & Amend, New York, N.Y.
Harshaw Scientific Div., Harshaw Chemical
Co., Cleveland, Ohio
Precision Thermometer & Instrument Co.,
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The Philip Carey Mfg. Cu., Lockland, Cincinnation Phe Philip Carey Mfg. Cu., Lockland, Cincinnation Control Care, Chicago, III.

The Celotes Corp., Chicago, III.

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Cork Insulation Co., Inc., New York, N.Y.

Craine. Inc., Norwich, N.Y.

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Homasoite Co., Treaton, N.J.

Johns-Manville Corp., New York, N.Y.

Kalamazoo Tank & Silo Co., Kalamazoo, Mich.

Kiroherly-Clark Corp., Neenah, Wis.

Masonite Corp., Chicago, III.

Mon-santo Chem. Co., St. Louis, Mo.

Mundet Corp. Co., North Hergen, N.J.

Ostonia-Himois Glass Co., Toledo, Ohio

Chicago, III.

Reflect-O. Inc., Chicago, III.

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Reflect-O. Inc., Chicago, III.

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Chicago Chicago, III.

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Whittaker, Clark & Daniela. Inc., New York, N.Y.

Wood Conversion Co., St. Paul, Minn.

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Consult Alphabetical Index on pages 28 and 29

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Carrier Corp., Syracuse, N.Y.
Curtis Refrigerating Machine Co., St. Louis, Mo.
De La Vergne Engine Co., Inc., Philadelphia.
De La Vergne Engine Co., Inc., Philadelphia. er Div. General Machine & Mfg. Co., Ber-

Frick Company, Waynesboro, Pa. Frigidaire Div., General Motors Corp., Dayton. Prigidaire Div., General Motors Corp., Dayton-Ohio
General Electric Co., Bridgeport, Conn.,
General Refrigerators Corp., New York, N.Y.
Harris Ice Machine Works, Portland, Ors.
Howe Ice Machine Works, Portland, Ors.
Howe Ice Machine Co., Chicago, Ill.
International Harvester Co., Chicago, Ill.
Relvinator Div., Nash-Kelvinator Corp., Detroit, Mich.
Howe Ice Mich. Mich.
Hower Co., New York, N.Y.
Niegars Dewort Co., New York, N.Y.
Niegars Dewort Co., New York, N.Y.
Nietor Products Corp., Hageratown, Md.
Vilter Mfg. Co., Milwaukee, Wis.
Westinghouse Electric & Mfg. Co., E. Springfield, Mass.
Worthington Pump & Machinery Corp., Harrison, N.J.
Yates-American Machine Co., General Refrig.

rison, N.J. Yates-American Machine Co., General Refrig-eration Div., Beloit, Wis. York Corp., York, Pa.

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City Products Corp., Chicago 3, Ill. Conlerator Co., Dubuth, Minn. Merchants Refrigerating Co., New York, N. Y. Sherer-Gillette Co., Marshall, Mich. National Assn. of Ice Industries, Washington 6, B.C.

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COMPOSITION

COMPOSITION
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The Philip Carey Mfg. Co., Lockland, Cincinnati 15, Ohio
Celotex Corp., Chicago, Ill.
Certain-teed Products Corp., Ardmore, Pa.
Flintkote Co., Inc., New York, N.Y.
A. C. Horn Co., Inc., Long Island City, N.Y.
Johns-Manville Corp., New York, N.Y.
Masomite Corp., Chicago, Ill.
Red Cedar Shingle Bureau, Seattle, Wash.
Ruberoid Co., New York, N.Y.
Truacon Steel Co., Youngstown, Ohio
U. S. Gypsum Co., Chicago, Ill.

American Rolling Mill Co., Middletown, Ohio Bublehem Steel Corp., Bethlehem, Pa. Blaw-Knox Div., Blaw-Knox Co., Pittsburgh,

Bristol Co., Waterbury 20, Conn. Eimer & Amend, New York, N.Y. Fleischhauer, Fr. & Son, Hollis, N.Y. Harshaw Scientific Div., Harshaw Chemical Co., Harshaw Scientific Div., Harshaw Chemical Co., Cleveland, Ohio H-B Instrument Co., Philadelphia, Pa. Precision Thermometer & Instrument Co., Philadelphia, Pa. Taylor Instrument Co., Rochester, N. Y.



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Cartier Corp., Syracuse, N.Y.
Prick Company, Waynesboro, Pa.
General Electric Co., Schenectady, N.Y.
H.-B Instrument Co., Inc., Philadelphia, Pa.
Powers Regulator Co., Chicago, III
Precision Thermometer & Instrument Co.,
Philadelphia, Pa.
Taylor Instrument Co., Rochester, N.Y.
Westinghouse Elec. Corp., Pittsburgh 30, Pa.

# Ventilators

The Philip Carey M(g. Co., Lockland, Cincinnati 15 Ohio Craine, Ine, Norwich, N.Y. Ilg Electric Ventilating Co., Chicago, Ill. James M(g. Co., Ft. Atkinson, Wis. Louden Machinery Co., Fairfield, Iowa

# Waterproofing Compounds

Waterproofing Compounds
Barriett Dis Allied Chem. & Dye Corp., New
York, N.Y.
Bird & Son, Inc., E. Walpole, Mass.
The Philip Carey Mfg. Co., Lockland, Cincinnati 15, Ohio
Celotex Corp., Chicago, Ill.
Celotex Corp., Chicago, Ill.
Cincin Care, New York, N. Y.
Johns-Manuthi Corp., New York, N. Y.
Johns-Manuthi Corp., New York, N. Y.
Pittsburgh, Plate Gard, Columbia Chemical
Biv., Pittsburgh, Pa.
The Ruberoid Co., New York 36, N.Y.

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Wood Preserving
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American Fluresit Co., Inc., Cinetmati, Ohio
American Lumber & Treating Co., Chicago, Id.
Barrett Div. Alfied Chem. & Dye Corp., New
York, N.Y.
Curinol Div., Darworth, Inc., Simsbury, Conn.
Dow Chemical Co., Midland, Mich.
Eagle-Picher Co., Cinetmati, Ohio
Fungitro Chemicals Inc., Hillside, N.J.
Koppers Co., Inc., Pittsburgh, Pa.
Nucdex Products, Inc., Elizabeth, N.J.
Planetary Chemical Co., Creve Coour, Mo.
The Ruberond Co., New York 36, N.Y.
Thompson Horticultural Chemicals Corp., Los.
Angeles, Calif. Angeles, Calif Woolfolk Chemical Works, Ltd., Ft. Valley, Ga

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# Hydrometers and Hygrometers

Bristol Co., Waterbury 20, Conn.
Eimer & Amend, New York, N.Y.
Harshaw Scientific Div., Harshaw Chemical Co.,
Cleveland, Ohio
Precision Thermometer & Instrument Co., Philadelphia, Pa.
Tsylor Instrument Co., Rochester, N.Y.
Tyson Orchard Service, Flora Dale, Pa.

# Magnifiers, Hand

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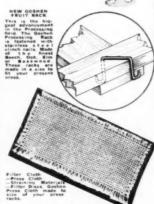
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First tractor in the orchard after a rain.



# First Tractor Anytime

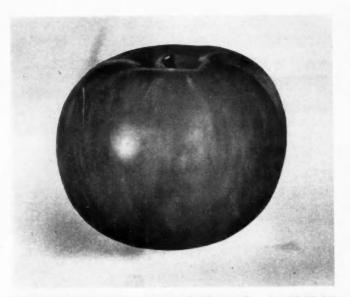
SURE, it rained here only a little while ago. And up on the hills it's plenty slick. But it makes no difference to this "Cat" Diesel Tractor! Read what Robert Vieritz, City of David, Berrien Springs, Mich. says about this "Cat" D2 Tractor: We wouldn't farm without it. Rolling farm land and tight schedules make it a must! I spray right after a rain ... if I couldn't, our fruit losses sometimes would pay for another tractor! We do practically everything around the orchard with "Caterpillar" Diesel Tractors . . . pull this 400 gallon power takeoff sprayer, pull 2-18" bottoms in 4th speed, disk, drag, etc. On the spraying job we burn about 11/4 gallons of Diesel fuel per hour. We've learned from many years of on-the-job experience to depend on our three D2s, to do our toughest work at big savings in fuel cost. We also have a TracLoader

which we use for brush piling and farm jobs.

Every time it rains during early spray season, do you keep your fingers crossed for fear you can't get into the orchard with your tractor and sprayer? Here's a sure cure for your worries: own a "Caterpillar" Diesel Tractor! Then you'll have power and traction for the slickest sidehills and muddy bottomland. Then you'll have power aplenty to operate driven sprayers from the "live" power takeoff, and jobmatched gear to provide ideal coverage! See your friendly "Caterpillar" Dealer for more details. And if he asks you to wait, please understand that "Caterpillar" is the most-wanted and respected name among Diesel track-type tractors, hence demand may exceed supply in his store. But see him today, for the sooner you do, the sooner you'll be a 'Caterpillar" owner!

CATERPILLAR TRACTOR CO., PEORIA, ILL.

# CATERPILLAR



# PROTECT PROFITS WITH

# Black 253 Cover Spray

**STREAMLINE** your cover spray program! Produce more clean fruit at lower cost with all-summer use of Black Leaf 253, the new cover spray which provides simple, easy, one-product control of codling moth, red-banded leafroller, leafhoppers, European red mite, red spider mite, San Jose scale, Forbes scale, and similar pests.

BLACK LEAF 253 is Black Leaf *Tobacco Base* "impregnated" with 25% of DDT and 3% of Parathion by an exclusive process. In years of tests, Black Leaf 253 topped other more complicated and more expensive spray programs in TOTAL CLEAN FRUIT.

**DUSTLESS.** Black Leaf 253 is scientifically treated to eliminate dust. Just dump it in the water as the spray tank is refilling.

**COMPATIBLE.** Mixes with all the fungicides and other materials recommended in combination with DDT and Parathion.

**LESS RESIDUE.** Black Leaf 253 provides excellent control with minimum chemical residue and essentially no visible residue.

**START NOW** to spray regularly with economical, easy-to-use, highly-effective Black Leaf 253. Write for free circular!

TOBACCO BY-PRODUCTS & CHEMICAL CORPORATION
Richmond, Va. Louisville, Ky. Mentgomery, Ala. Waco, Texas San Francisco, Calif.

# OTHER FAMOUS Black Leaf SPRAY MATERIALS

# TEPP

Black Leaf TEPP 40 contains 40% tetraethyl pyrophosphate and 60% other organic phosphates. Used at the rate of one-fourth to one-third pint in 100 gallons of water, Black Leaf TEPP 40 controls European red mite, two-spotted mite, Pacific mite, clover mite, also leafhoppers (nymphs) and aphids infesting apples, pears, peaches and similar crops.

Black Leaf TEPP 40 should be applied promptly after preparation of spray mixture. Follow directions on package and consult local agricultural authorities for information on timing of applications, etc.

# DDT

**Black Leaf 50% DDT** Wettable Powder is well known and widely used to control codling moth, oriental fruit moth, leafhoppers, citrus thrips, and similar insects. Do not apply to fruit within 30 days of harvest. Follow directions on package.

# **Parathion**

Black Leaf Parathion Wettable Powder formulations are dustless. Available as 15% or 25% Parathion, these desirable formulations are designed to avoid the problem of "dustiness" when the wettable powder is being handled. Permits the addition of the Parathion Wettable Powder directly to the spray tank while refilling.

Black Leaf Parathion Wettable Powders are effective against European red mite, two-spotted mite, Pacific mite, brown almond mite, various species of aphids, and certain other insects. Parathion, while extremely effective as an insecticide, is also highly poisonous to human beings if inhaled, absorbed through the skin, or swallowed. Danger may be minimized if most stringent precautions are rigidly observed. Follow directions on labels, and consult local agricultural authorities for information on the proper use of Parathion.

**DEPENDABLE PEST CONTROL PRODUCTS SINCE 1885**